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Diploglossus lessonae Peracca, 1890 (Squamata: Anguidae): new records from northeast Brazil and notes on distribution

Francis Luiz Santos Caldas[1*], **Daniel Oliveira Santana**[1], **Renato Gomes Faria**[2], **Adriana Bocchiglieri**[2] and **Daniel Oliveira Mesquita**[1]

1 Universidade Federal da Paraíba, Programa de Pós-Graduação em Ciências Biológicas (Zoologia). Cidade Universitária, CEP 58059-900, João Pessoa, PB, Brazil
2 Universidade Federal de Sergipe, Programa de Pós-Graduação em Ecologia e Conservação. Cidade Universitária Prof. José Aloísio de Campos, CEP 49100-000, São Cristóvão, SE, Brazil
* Corresponding author. E-mail: francisluiz_bio@hotmail.com

Abstract: The family Anguidae contains three subfamilies: Gerrhonotinae, Anguinae, and Diploglossinae. In Brazil, there are four described anguid species, all from the subfamily Diploglossinae. Herein, we present the first records of *Diploglossus lessonae* Peracca, 1890 from the state of Sergipe and new records for the states of Paraíba and Ceará. The records compiled here for the Caatinga can reveal a pattern of widely distributed species in the biome.

Key words: lizards; Diploglossinae; Sergipe; Caatinga; Atlantic Forest

The family Anguidae contains three subfamilies: Gerrhonotinae occurs strictly in North and Central America, Anguinae is the only found in the Old World, and Diploglossinae is distributed in Mexico, the West Indies, and South America (Macey et al. 1999). The Diploglossinae contains three genera (*Diploglossus*, *Celestus,* and *Ophiodes*) with the possibility of paraphyly in *Diploglossus* (Pyron et al. 2013). In Brazil, there are four Anguidae species: *Ophiodes striatus* (Spix, 1825), *Ophiodes yacupoi* Gallardo, 1966, *Diploglossus fasciatus* (Gray, 1831), and *Diploglossus lessonae* Peracca, 1890, all Diploglossinae (Costa and Bérnils 2014).

Diploglossus lessonae Peracca, 1890 (Figures 1 and 2) is an active forager found in northeastern Brazil and characterized by semifossorial habits associated with litter, fallen logs, and rock crevices (Vitt 1995; Passos et al. 2011). The juveniles mimic the toxic millipede *Rhinocricus albidolimbatus* (Porat, 1876), in that the number of births increases precisely when their models (millipedes) are more abundant in the environment,

Figures 1 and 2. *Diploglossus lessonae* Peracca, 1890 (C376) from Simão Dias, state of Sergipe, Brazil. **1.** Lateral view. **2.** Ventral view. Photos by Crizanto Brito De-Carvalho.

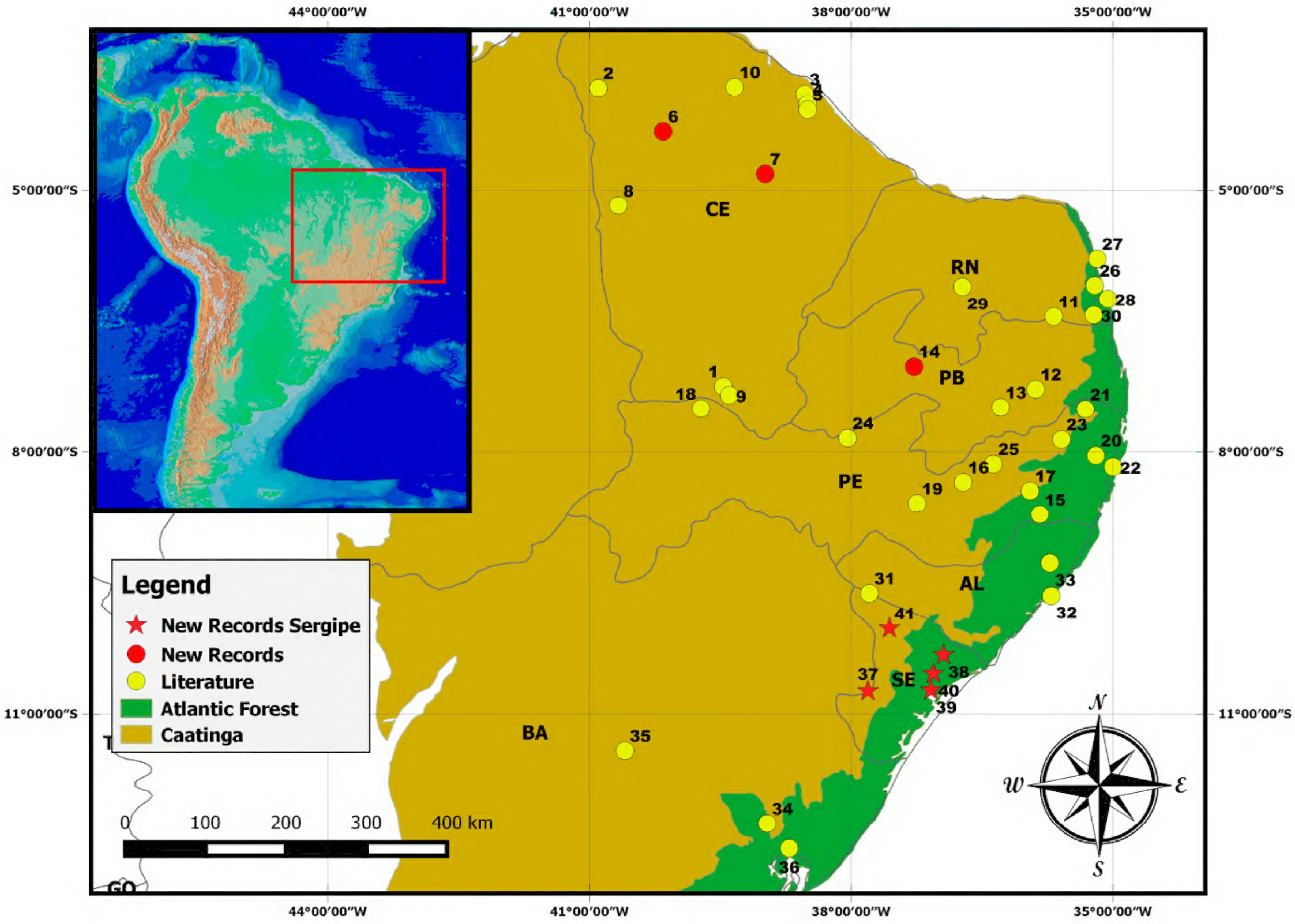

Figure 3. Geographic distribution of *Diploglossus lessonae* in Brazil. Municipalities: 1. Crato; 2. Ubajara; 3. Itaitinga; 4. Aquiraz; 5. Horizonte; 6. Santa Quitéria; 7. Quixadá; 8. Cratéus; 9. Barbalha; 10. Pentecoste; 11. Araruna; 12. Campina Grande; 13. Cabaceiras; 14. Patos; 15. Jaqueira; 16. Pesqueira; 17. Agrestina; 18. Exú; 19. Buíque; 20. São Lourenço da Mata; 21. Timbaúba; 22. Jaboatão dos Guararapes; 23. João Alfredo; 24. Triunfo; 25. Brejo da Madre de Deus; 26. Nísia Floresta; 27. Natal; 28. Tibau do Sul; 29. Tenente Laurentino Cruz; 30. Pedro Velho. 31. Piranhas; 32. Maceió; 33. Flexeiras; 34. Feira de Santana; 35. Miguel Calmon; 36. Santo Amaro; 37. Simão Dias; 38. Malhada dos Bois; 39. Maruim; 40. Capela; 41. Monte Alegre. State abbreviations: AL = Alagoas; BA = Bahia; CE = Ceará; PB = Paraíba; PE = Pernambuco; RN = Rio Grande do Norte and SE = Sergipe.

usually in the rainy season (Vitt 1992). According to our records and published data, the species are distributed in northeast Brazil, in the states of Ceará, Rio Grande do Norte, Paraíba, Pernambuco, Alagoas, Sergipe, and Bahia (Vanzolini 1958; Freire 1996; Borges-Nojosa and Caramaschi 2005; Torquato da Silva et al. 2006; Queiroz et al. 2010; Pedrosa et al. 2014) (Figure 3; Table 1).

Herein, we present the first records of *Diploglossus lessonae* from the state of Sergipe. These occurrences add important records in the southern part of the species' distribution (see Vanzolini 1958), in the municipalities of Simão Dias (10°44′20″S, 037°48′33″W), Monte Alegre (10°01′30″S, 037°48′33″W), Malhada dos Bois (10°19′45″S, 036°56′33″W), Maruim (10°43′50″S, 037°05′10″W), and Capela (10°32′30″S, 037°03′30″W) (Figure 3; Table 1). The first two records are located in the Caatinga biome and the latter three in the Atlantic Forest (*sensu* Vieira et al. 2013). The municipality of Monte Alegre, located in northern Sergipe, is about 70 km from the nearest reported occurrence, Piranhas (Alagoas; 09°37′14″S, 037°47′34″W) (SpeciesLink 2015). The record from Simão Dias municipality, located in southern Sergipe, is about 300 km from the nearest southern location, Santo Amaro (Bahia; 12°32′46″S, 038°42′42″W) (SpeciesLink 2015). In addition, we present some new records for the states of Paraíba and Ceará, along the most continuous stretch of the species distribution: Patos-PB (07°01′28″S, 037°16′48″W), Quixadá-CE (04°48′45″S, 038°59′10W″), and Santa Quitéria-CE (04°19′50″S, 040°09′25″W), all located in the Caatinga biome (*sensu* MMA 2011).

The new specimens are deposited in the Coleção Herpetológica da Universidade Federal de Sergipe (CHUFS) and in Coleção Herpertológica da Universidade Federal da Paraíba (CHUFPB). The voucher numbers are in Table 1. The collections were authorized by permits #4871-1 and (#100/2011; #187/2010) issued by Instituto Chico Mendes de Conservação da Biodiversidade (ICMBIO).

We confirmed the identification of specimens by the number of midbody scales in the median region (35),

Table 1. Coordinates of the known distribution of *Diploglossus lessonae* in Brazil and consulted bibliography.

State	Point	Municipality	Latitude (S)	Longitude (W)	Reference
Ceará	1	Crato	07°15′00″	039°28′00″	Borges-Nojosa and Caramaschi (2005); Lopes et al. (2007); Ribeiro et al. (2009); Ribeiro et al. (2012)
Ceará	2	Ubajara	03°49′50″	040°53′60″	Loebmann and Haddad (2010)
Ceará	3	Itaitinga	03°54′00″	038°32′00″	Borges-Nojosa and Caramaschi (2005)
Ceará	4	Aquiraz	04°01′00″	038°30′00″	Borges-Nojosa and Caramaschi (2005)
Ceará	5	Horizonte	04°05′00″	038°30′00″	Borges-Nojosa and Caramaschi (2005)
Ceará	6	Santa Quitéria	04°19′50″	040°09′25″	New record (CHUFPB 11890)
Ceará	7	Quixadá	04°48′45″	038°59′10″	New record (CHUFPB 9495)
Ceará	8	Cratéus	05°10′41″	040°40′10″	Andrade et al. (2000)
Ceará	9	Barbalha	07°21′00″	039°24′00″	Williams and Vanzolini (1980)
Ceará	10	Pentecoste	03°49′06″	039°20′14″	Passos et al. (2016)
Paraíba	11	Araruna	06°27′13″	035°40′49″	Arzabe et al. (2005)
Paraíba	12	Campina Grande	07°16′54″	035°53′13″	Queiroz et al. (2010)
Paraíba	13	Cabaceiras	07°29′25″	036°17′15″	Rodrigues (1986)
Paraíba	14	Patos	07°01′28″	037°16′48″	New record (CHUFPB 3518)
Pernambuco	15	Jaqueira	08°43′08″	035°50′23″	Santos and Santos (2008)
Pernambuco	16	Pesqueira	08°21′00″	036°42′60″	Ferreira et al. (2008)
Pernambuco	17	Agrestina	08°26′50″	035°56′60″	Vanzolini (1974)
Pernambuco	18	Exú	07°30′15″	039°43′27″	Vitt (1985); Vitt (1992); Vitt (1995)
Pernambuco	19	Buíque	08°35′30″	037°14′50″	Muniz and Santos (2011); Pedrosa et al. (2014)
Pernambuco	20	São Lourenço da Mata	08°02′28″	035°11′46″	MCP/PUCRS – 000009015; SpeciesLink (2015)
Pernambuco	21	Timbaúba	07°30′43″	035°19′00″	Vanzolini (1958)
Pernambuco	22	Jaboatão dos Guararapes	08°10′19″	034°59′55.26″	Vanzolini (1958)
Pernambuco	23	João Alfredo	07°51′40″	035°35′27″	Vanzolini (1958)
Pernambuco	24	Triunfo	07°50′44″	038°02′31″	MCP/PUCRS – 000009014; SpeciesLink (2015)
Pernambuco	25	Brejo da Madre de Deus	08°08′25″	036°22′17″	MCP/PUCRS – 000008443; SpeciesLink (2015)
Rio Grande do Norte	26	Nísia Floresta	06°05′37″	035°12′37″	Schmidt and Inger (1951)
Rio Grande do Norte	27	Natal	05°47′25″	035°10′47″	Parker (1924); Freire (1996)
Rio Grande do Norte	28	Tibau do Sul	06°14′55″	035°03′27″	Ribeiro and Freire (2011)
Rio Grande do Norte	29	Tenente Laurentino Cruz	06°05′94″	036°42′94″	Ribeiro and Freire (2011)
Rio Grande do Norte	30	Pedro Velho	06°26′05″	035°13′12″	Vanzolini (1972)
Alagoas	31	Piranhas	09°37′14″	037°47′34″	CH/UFBA/ LAG-119; LAG-521; SpeciesLink (2015)
Alagoas	32	Maceió	09°38′59″	035°42′32″	Torquato da Silva et al. (2006)
Alagoas	33	Flexeiras	09°16′30″	035°43′27″	Torquato da Silva et al. (2006)
Bahia	34	Feira de Santana	12°15′35″	038°57′52″	Vanzolini (1958)
Bahia	35	Miguel Calmon	11°25′43″	040°35′41″	CH/UFBA – LAG-551; SpeciesLink (2015)
Bahia	36	Santo Amaro	12°32′46″	038°42′42″	MBML/UFES – 2294; 2295; SpeciesLink (2015)
Sergipe	37	Simão Dias	10°44′20″	037°48′33″	New record (CHUFS 334; 376)
Sergipe	38	Malhada dos Bois	10°19′45″	036°56′33″	New record (CHUFS 470)
Sergipe	39	Maruim	10°43′50″	037°05′10″	New record (CHUFS 4448)
Sergipe	40	Capela	10°32′30″	037°03′30″	New record (CHUFS 4507)
Sergipe	41	Monte Alegre	10°01′30″	037°33′45″	New record (CHUFPB 12048; 12049)

the elongated and slightly depressed body, and pale-yellow coloration on the head, abdomen and underside of the tail with numerous brownish lines from the head to the tip of the tail, based on the description of Peracca (1890). The number of scales (35) around the body in the median region in *Diplogossus lessonae* differs from its congener, *D. fasciatus* (Gray, 1981), that has 44 midbody scales (Boulenger 1885).

The new records for *Diploglossus lessonae* from Sergipe, Paraíba, and Ceará justify the need for more inventories of surrounding areas, such as Alagoas and Bahia states. In this southernmost range of this species' distribution, the discontinuity of records may be the result of low sampling. Regarding the occurrence of the species in caatinga semiarid areas, it has been argued that the present distribution pattern of *D. lessonae* is relictual (Rodrigues 2005), because this lizard is also found in "Brejos de Altitude" (Borges-Nojosa and Caramaschi 2005) and Atlantic Forest regions (Schmidt and Inger 1951; Freire 1996). However, the new information on its presence in this habitat (Rodrigues 2005; Queiroz et al. 2010; Ribeiro and Freire 2011; Pedrosa et al. 2014; Passos et al. 2016) leads us to believe that the species is widely distributed in caatingas and its semifossorial habits can make its capture difficult.

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